

10. On the Systematic Position of the Genus *Miolania*, Owen (*Ceratochelys*, Huxley). By G. A. BOULENGER, F.Z.S.

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The remains of the large Australian Quaternary Reptile *Miolania*, recently referred by Prof. Huxley¹ to the order Chelonia, have at the same time been regarded as indicating an animal closely allied to the recent genera *Chelydra*, *Macrolemmys* (*Gypochelys*), and *Platysternum*—a fact which would be of great interest, since the group Cryptodira, to which those genera belong, is, at the present day, unrepresented in the fauna of Australia.

By the kindness of Dr. Woodward I have been able to examine additional material, among which is a nearly perfect skull with the two first cervical vertebræ attached, which was in the hands of Sir R. Owen at the time Prof. Huxley wrote his note. And I have come to the conclusion that, far from bearing any affinity to the *Chelydridæ* or *Platysternidæ*, the extinct Chelonian belongs, like the recent forms of the Australian region, to the group Pleurodira. The structure of the alveolar surface of the skull indicates beyond doubt an herbivorous animal; the ungual phalanges and the curious sheathed tail, I should say, a terrestrial one. The different habits would, therefore, account for some discrepancies on comparison with the recent representatives of the Pleurodira². The structure of the tail, with its opisthocœlous centra, is unique among the Pleurodira and points to a distinct family (*Miolaniidæ*). The pelvis also must have differed from that of existing Pleurodira, the ilium showing a surface for attachment to a sacral rib.

The principal characters which induce me to refer *Miolania* to the group Pleurodira are the following:—

1. The pterygoids are very broad, not narrowed posteriorly; their outer palatal borders, instead of being emarginate, form wing-like expansions.

2. The tympanic cavity is completely surrounded by the bony "roof," whilst in all known Cryptodira, however great the development of the roof, the tympanic disk is free behind.

3. The mandible articulates with the skull by a condyle fitting into an articular concavity of the quadrate—a character by which the Pleurodiran Chelonians differ from all other Reptilia, so far as I am aware.

4. The cervical vertebræ are those of a Pleurodiran; a strong and long transverse process is present, and the posterior borders of the

¹ Proc. Roy. Soc. xlii. p. 232.

² All recent Pleurodira are thoroughly aquatic, and, with the exception of *Podocnemis*, carnivorous. The singular canal leading to the orbit, formed by the curved-up anterior wings of the pterygoids, as well as the lateral chambers of the shell, are secondary characters in correlation with the diving powers, and occur also, more or less developed, in some of the most thoroughly aquatic Cryptodira, e.g. *Batagur* and *Ptychemys*. See Rüttimeyer's remarks, Verh. nat. Ges. Basel, vi. 1874, p. 58.

